MI.TECH
Produzione barriere antintrusione

Series

FOSTER

Installation Manual

vv. 07.05

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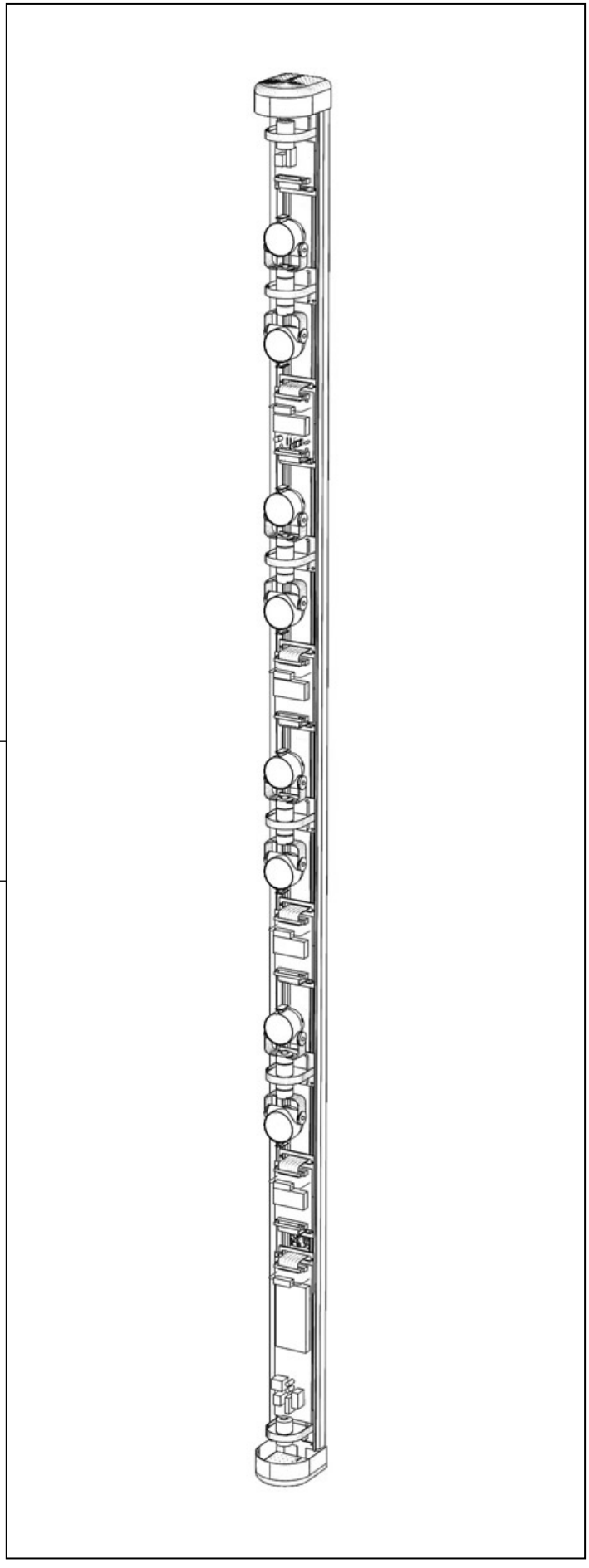
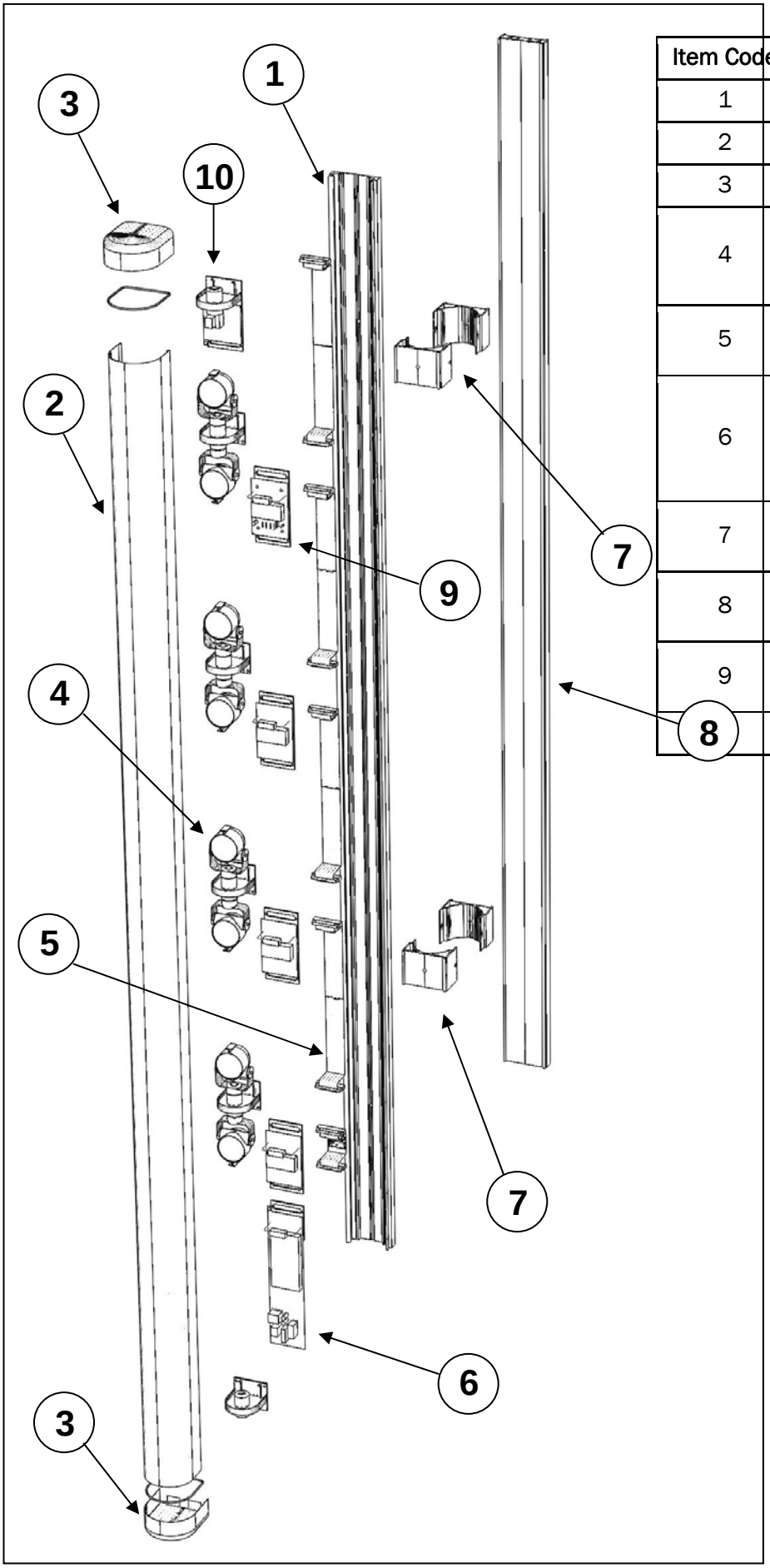
Foster anti-intrusion barrier

View of the two-lens barrier without protective cover



Main components



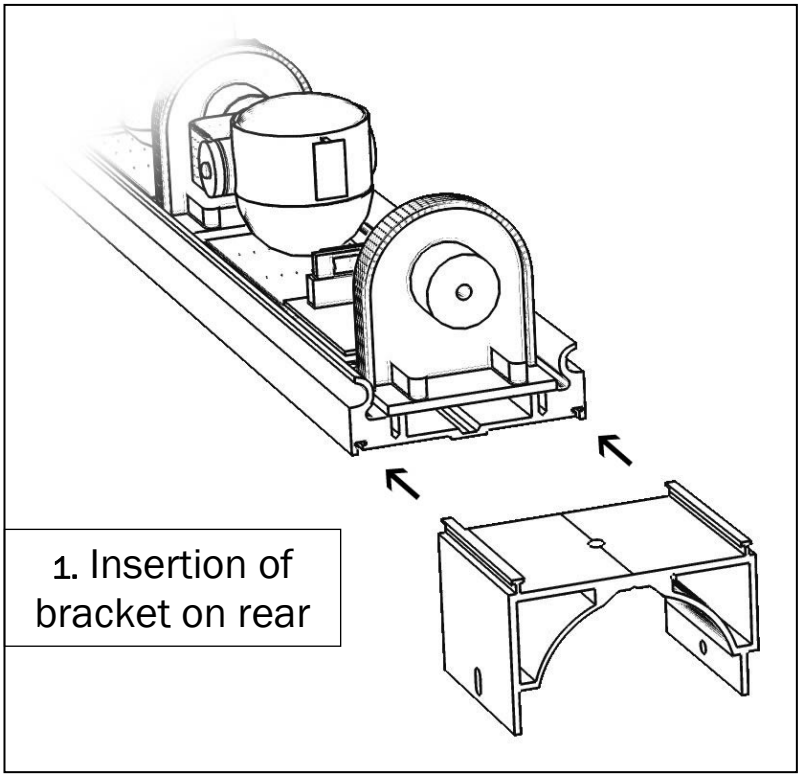
Item Code	Quantity	Description
1	1	Aluminum bar
2	1	IR cover
3	2	Plugging caps
4	From 2 to 5	Optical assemblies receiver / transmitter
5	From2 to 5	Flat cable
6	1	Motherboard with terminal board and cable/camper input
7	4	Post supporting rods
8	1	Wall-mounting racket
9	From 2 to 5	Expansion module
	1	Tamper module

General installation instructions

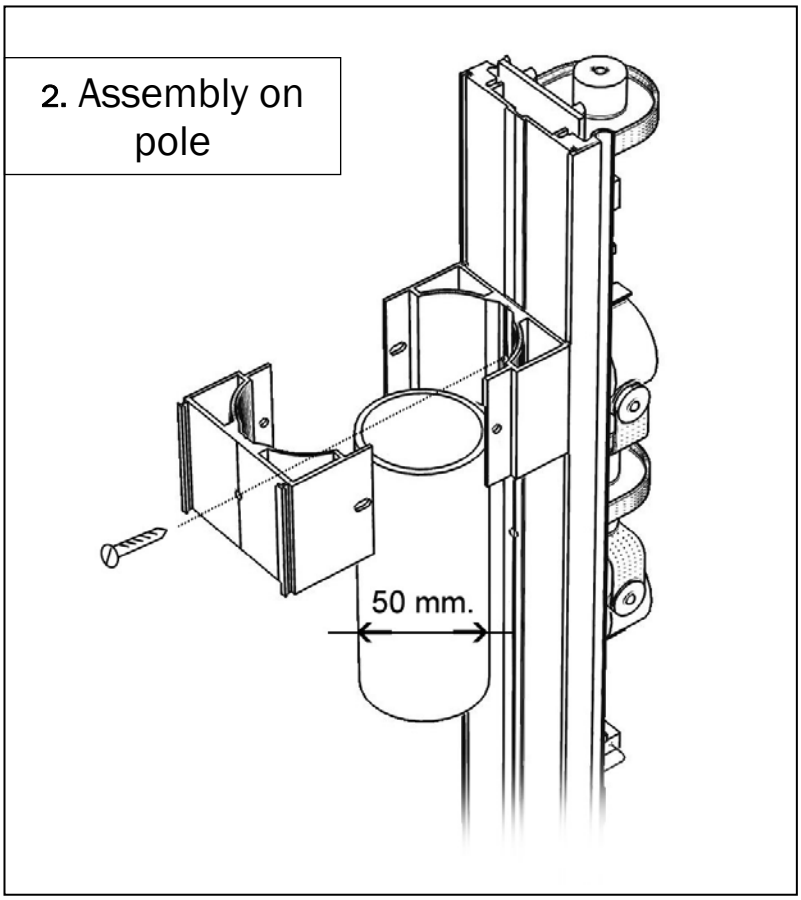
1. After installing the barrier, make sure that it is perfectly closed with the watertight covers supplied.
2. Use the cable clamps supplied to insert the cable in the lower section.
3. Make sure that the path between the sensors is free and that there are no obstacles that could affect the communication between the optical assemblies of the transmitters and receivers (i.e. branches, plants, leaves, etc. that could interfere with the beams).
4. Verify that the optical path of the transmitter used by the receiver barrier is not exposed to direct sunlight at dawn and sunset.
5. Do not stack several barriers, as this could cause the transmitters to interfere with several receivers. It is usually advisable to reverse the transmitters and receivers when installing the barriers (see page 9 in Figure 1-2).
6. Do not use switching power supplies that cause disturbance to power supplies when amplified by optically synchronized systems.

Bracket mounting options

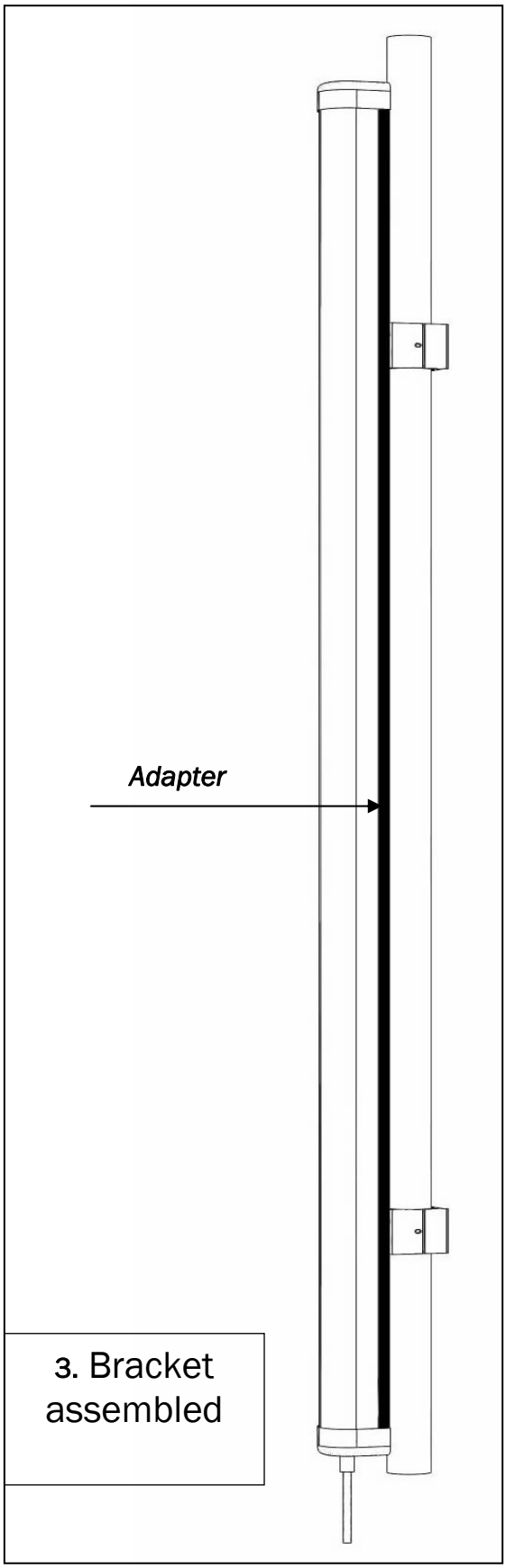
Mounting on pole with adapter and rods



1. Insertion of bracket on rear



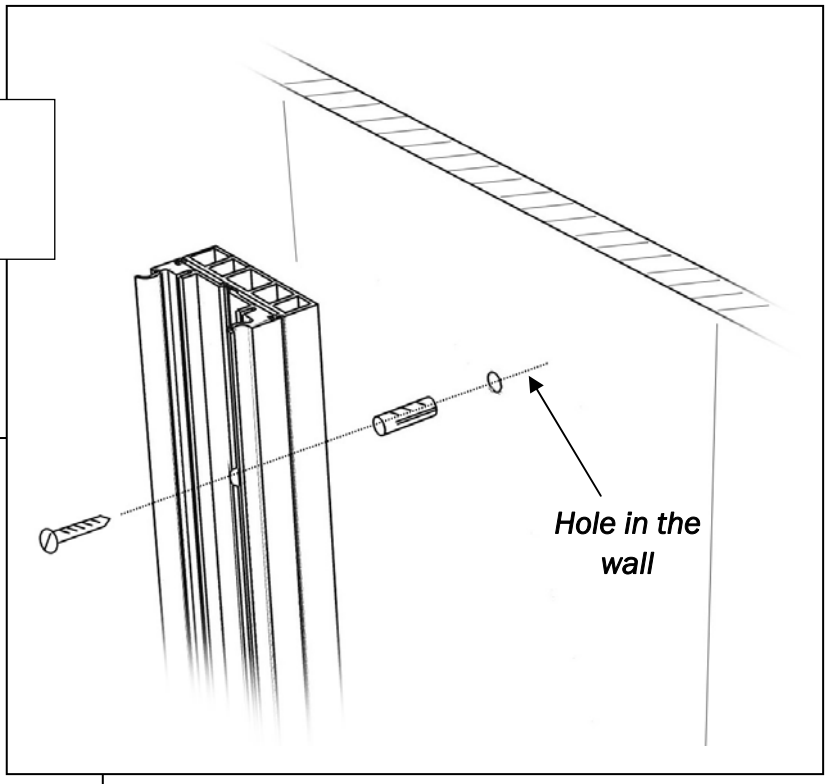
2. Assembly on pole



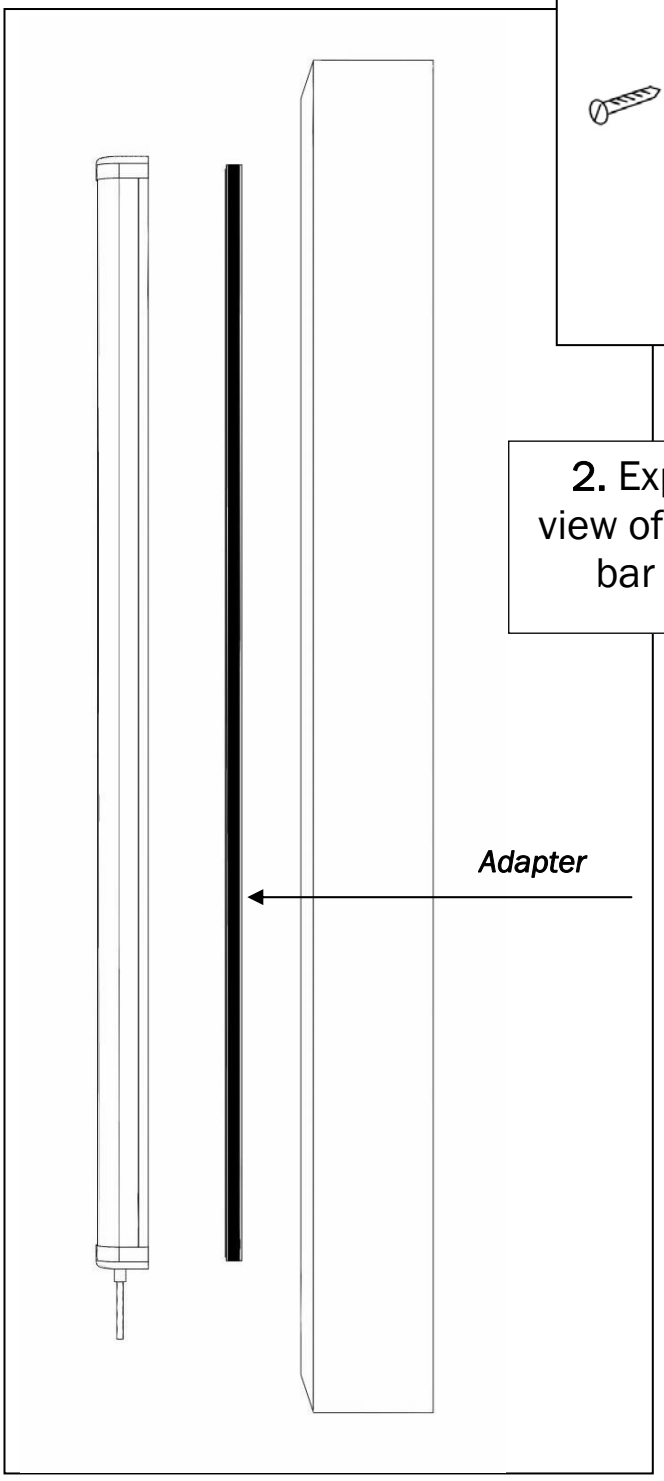
3. Bracket assembled

Wall mounting with adapter

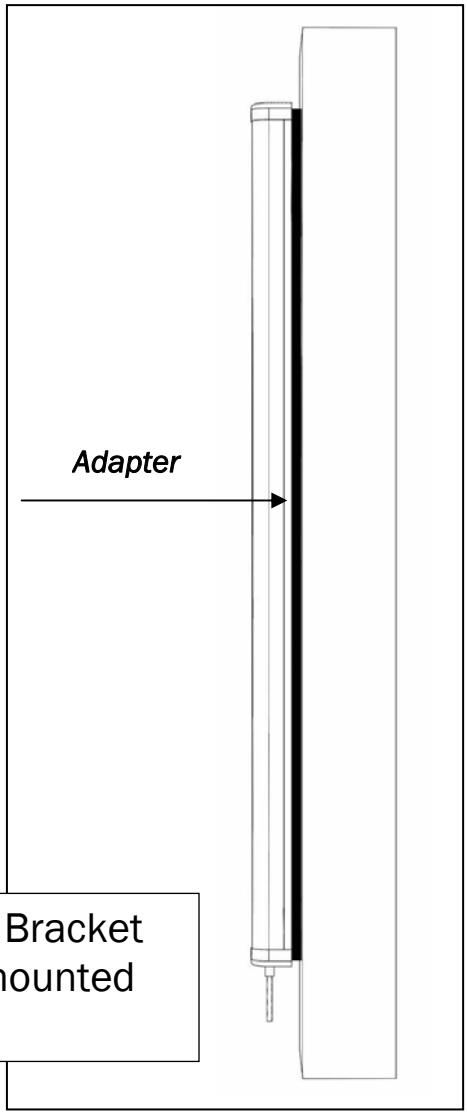
1. Mounting of bracket on wall with gussets



2. Exploded view of barrier - bar - wall

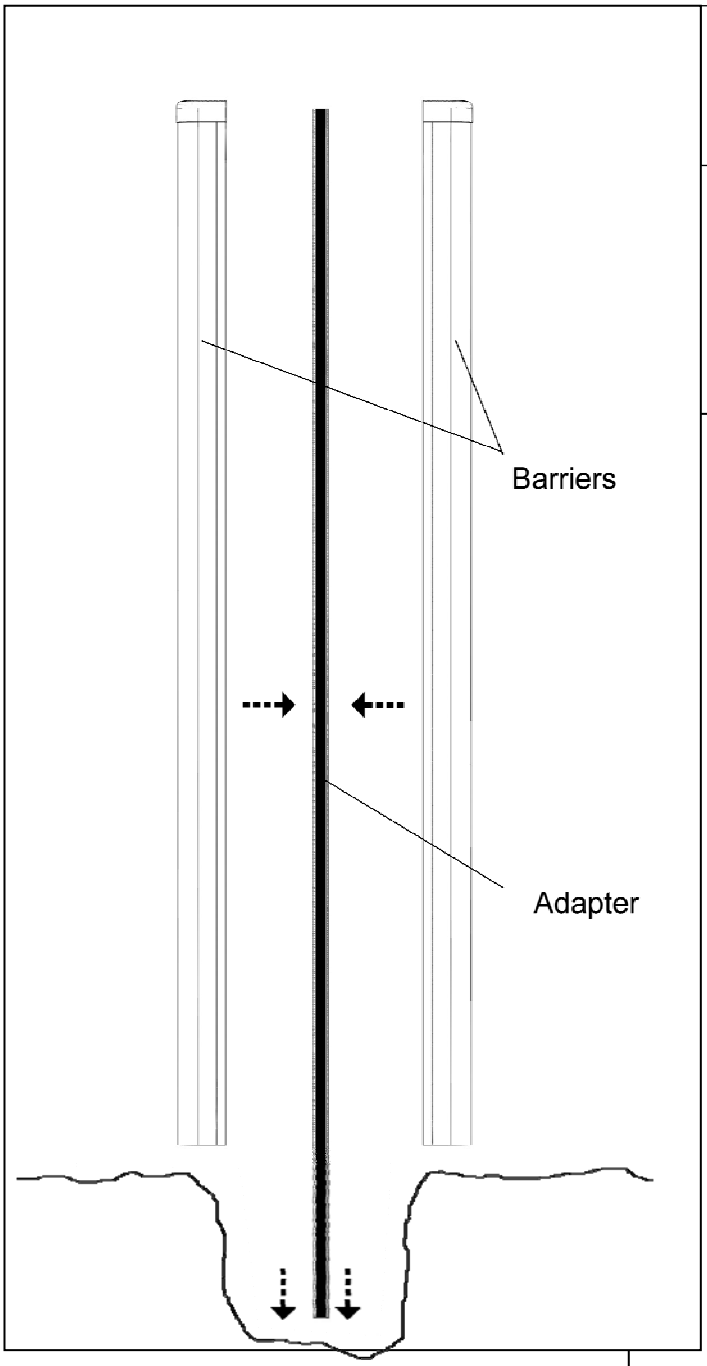


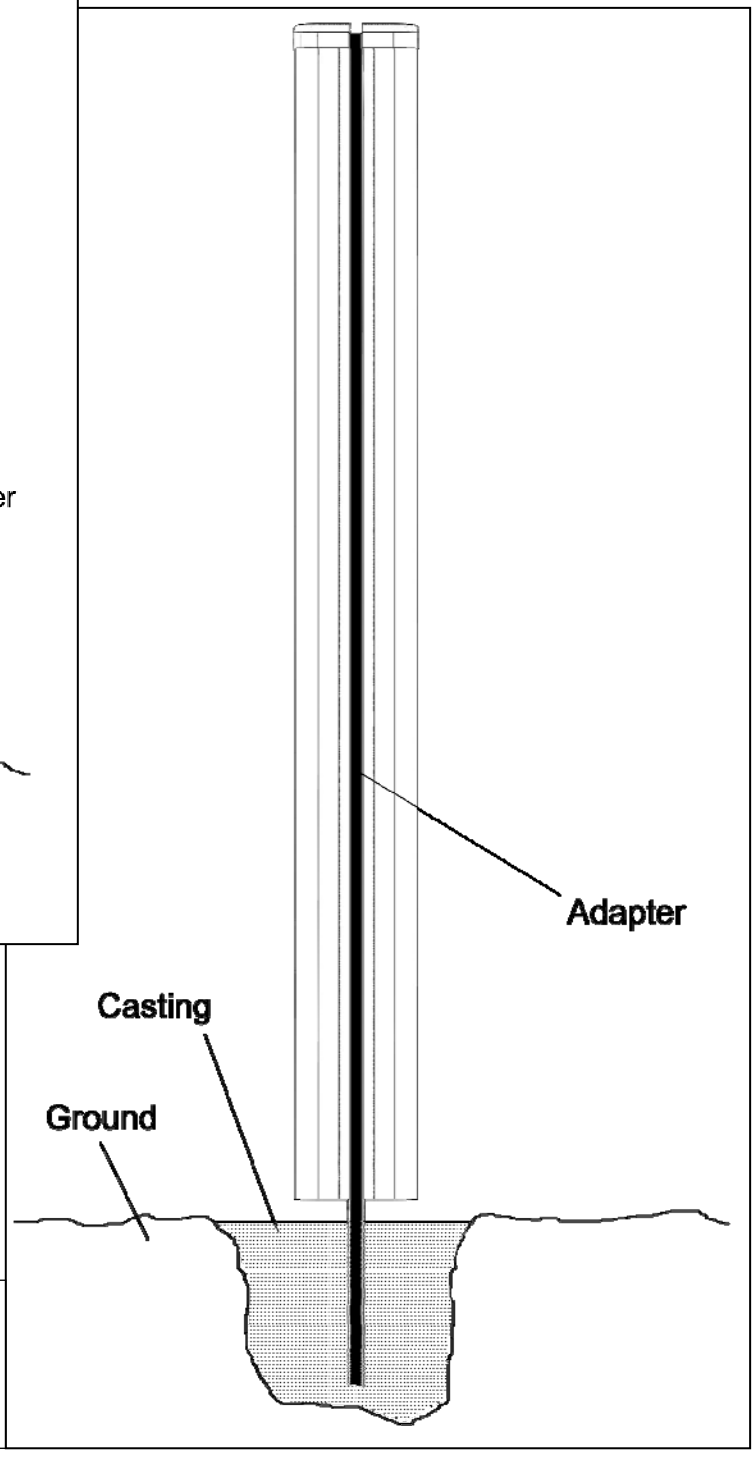
3. Bracket mounted



Floor-mounting

1. Mounting of barriers with adapter

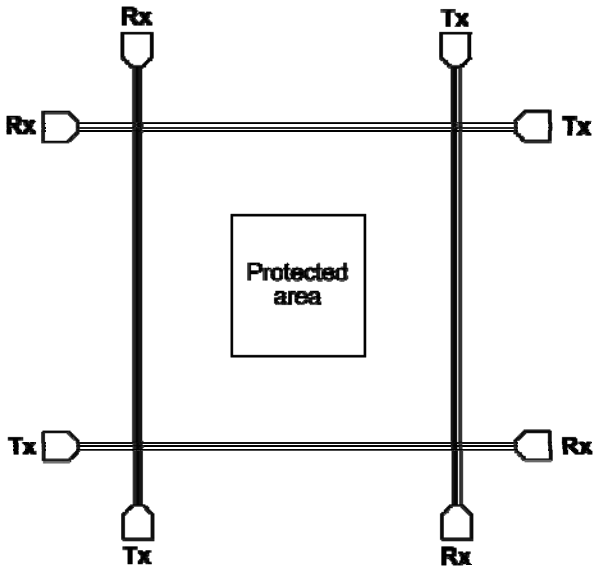




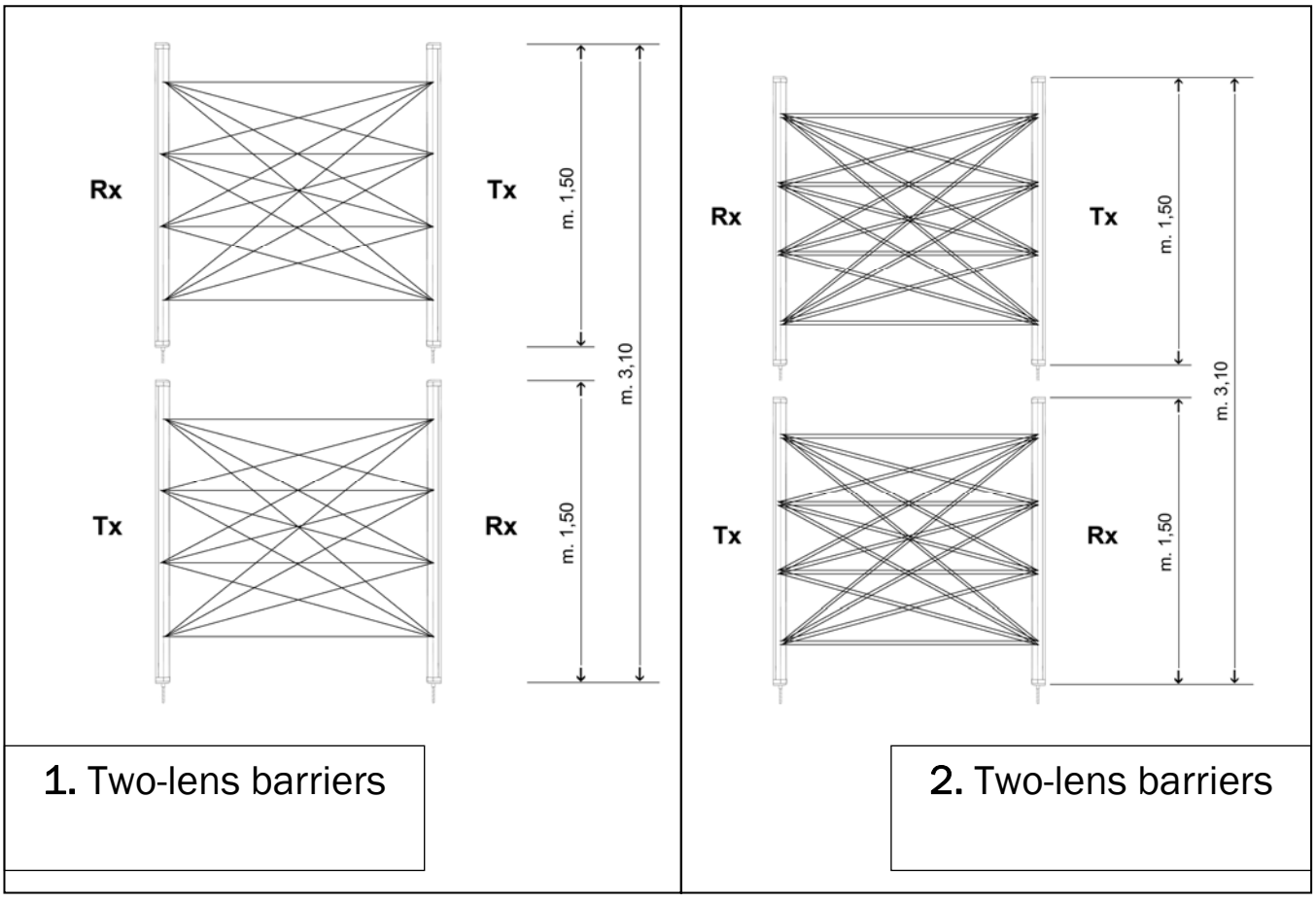
2. Layout of brackets after installation

Examples of installation

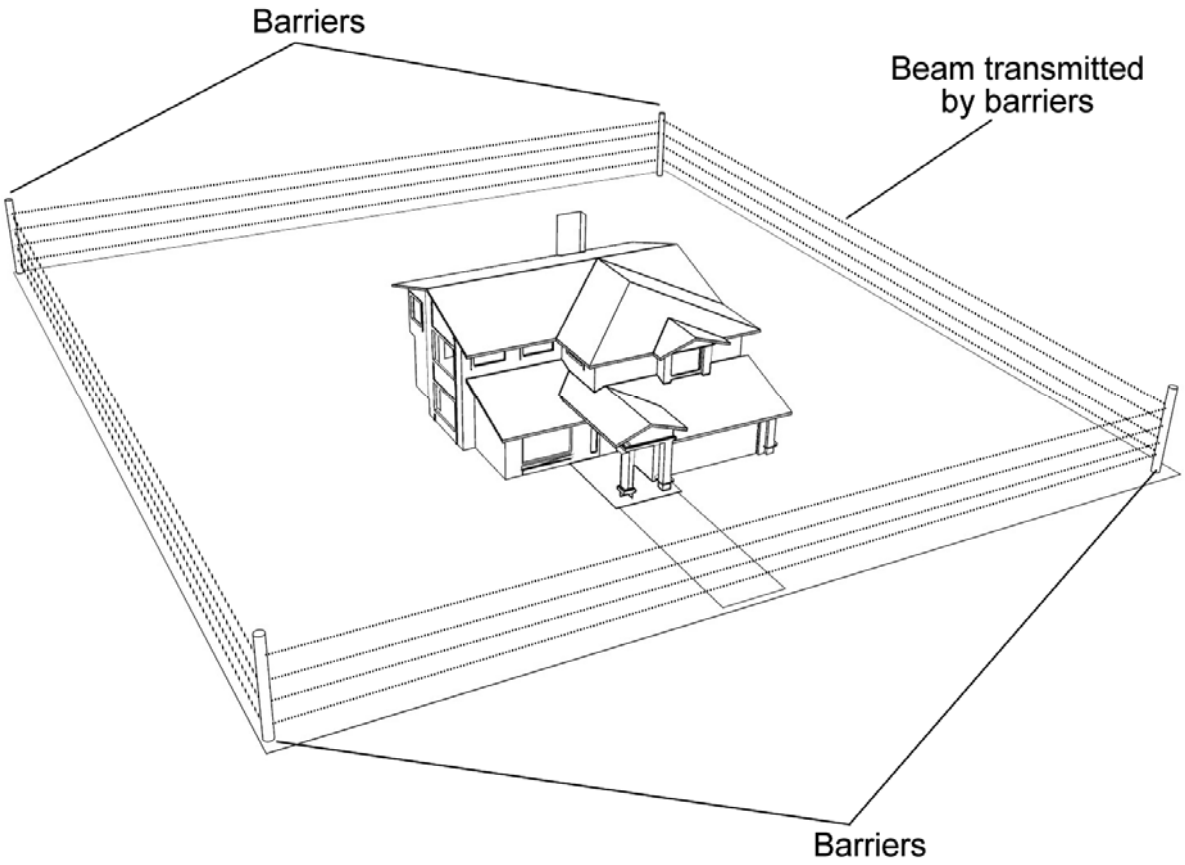
To be able to monitor the whole perimeter of an area, install the barriers as shown in the figure:



Barriers can also be stacked:

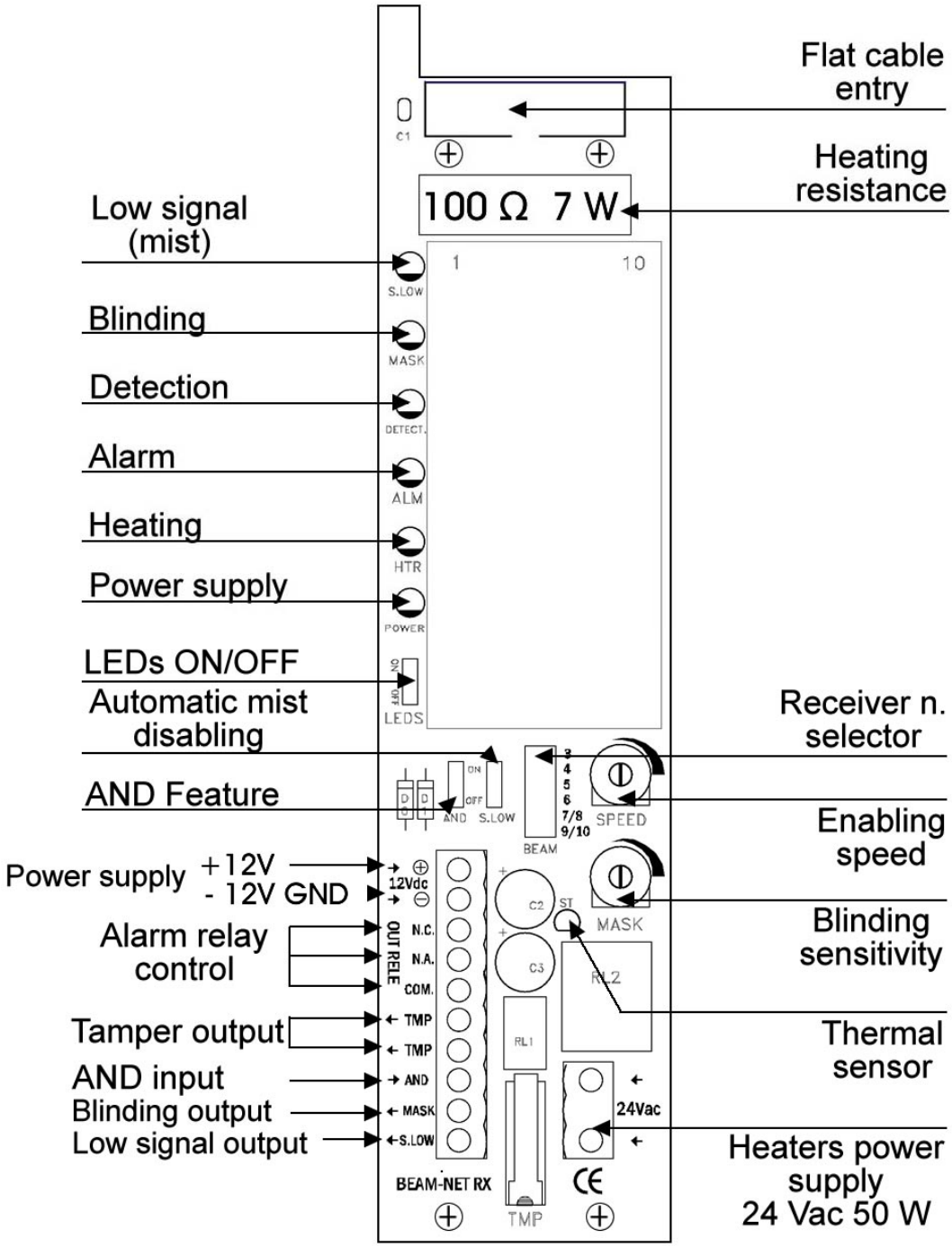


Example of how to protect an independent building

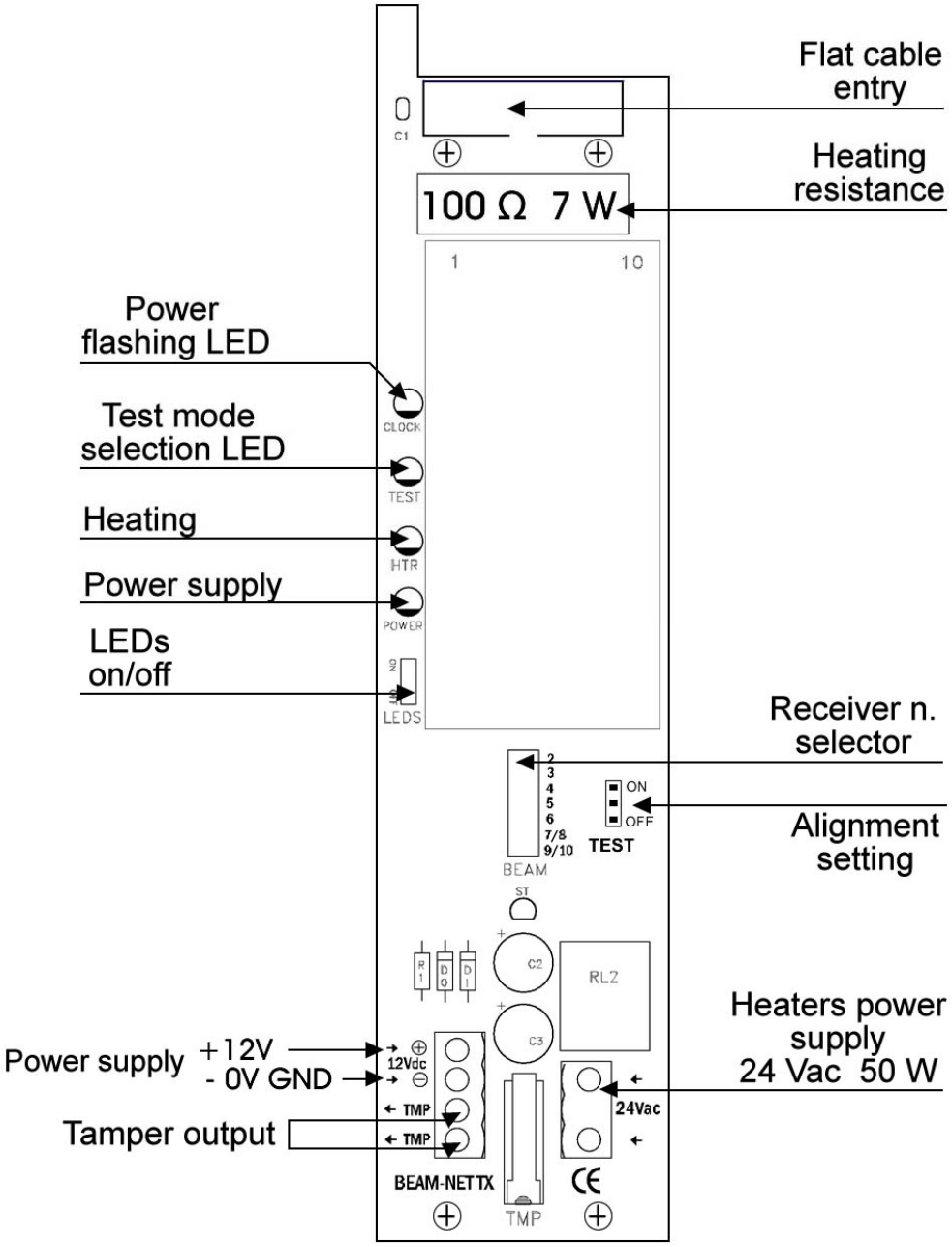


Cables and wiring on terminal board

Receivers board (RX) – Fig. 1



Transmitters board (TX) – Fig. 2



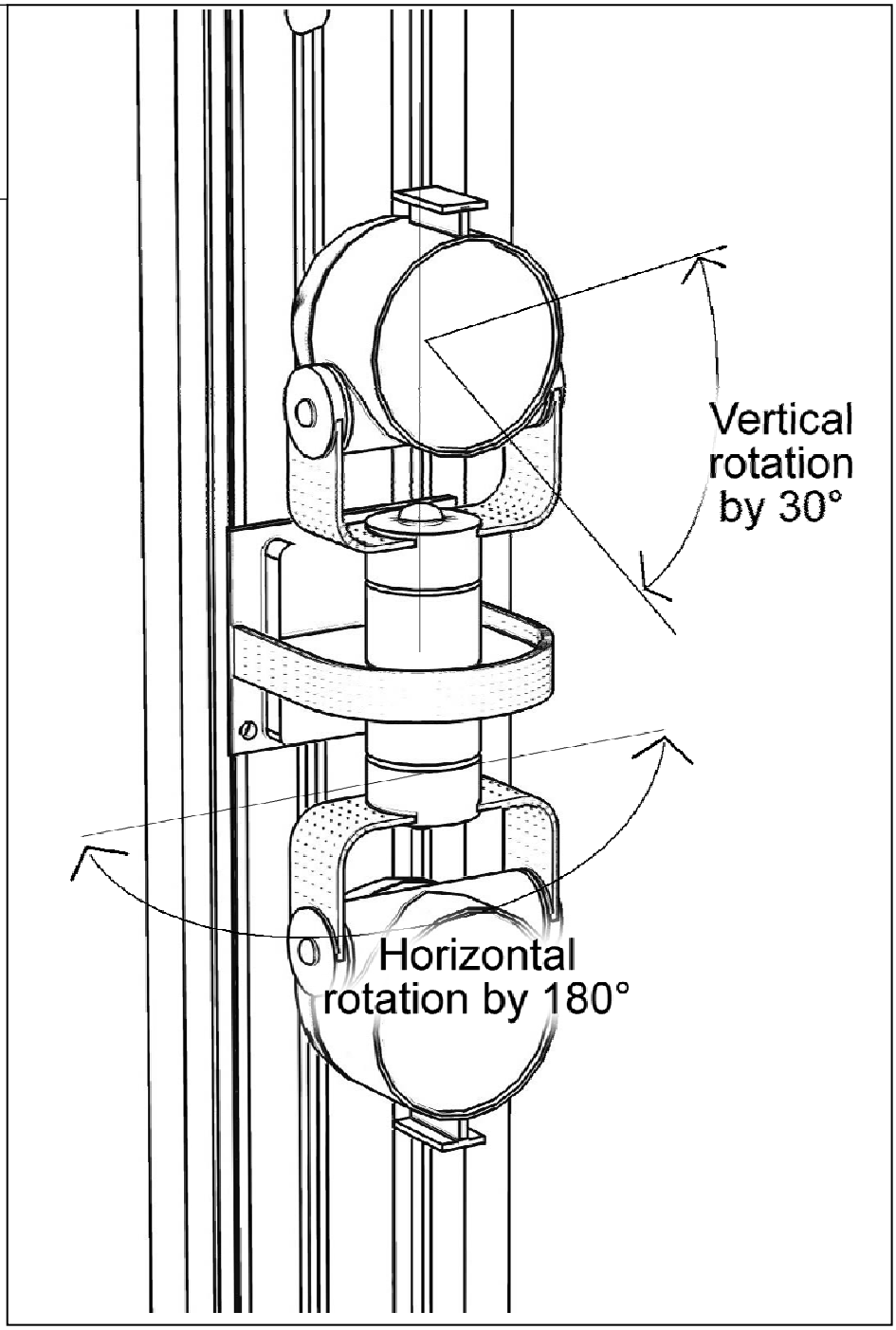
Aligning the barriers

N.B.: the pre-alignment of barriers, which is sufficient for the vast majority of installations, is carried out by the manufacturer during the final testing phase.

Initial manual alignment

To correctly align the barriers after installation, place the optical assemblies of the transmitters and receivers facing one another, manually moving them to adjust them vertically and horizontally.

1. Horizontal and vertical orientation

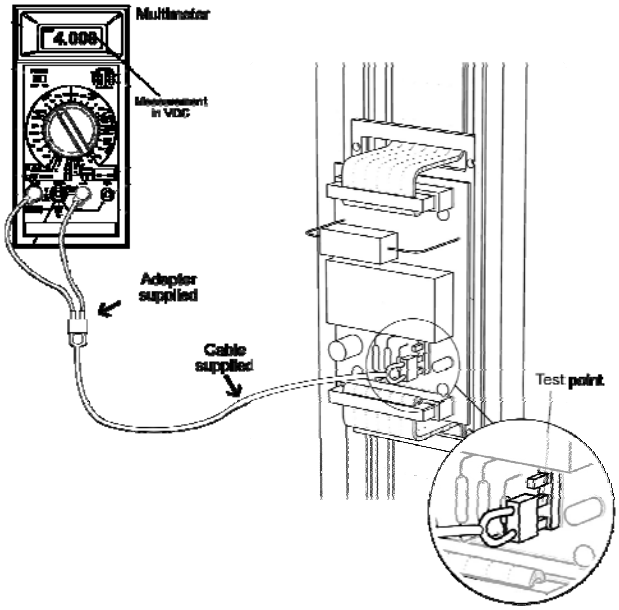


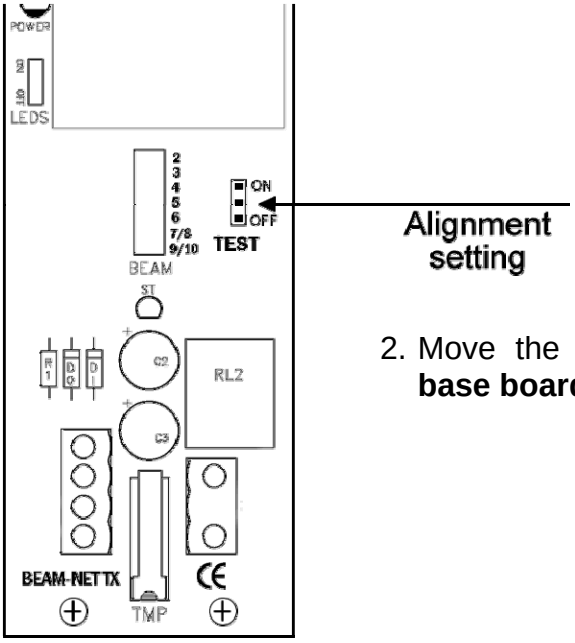
Aligning the instrumentation

N.B.: Foster barriers are already pre-aligned by the manufacturer. In the event of problems during the alignment, follow the procedure described here below.

Aligning the transmitter assembly (transmitter)

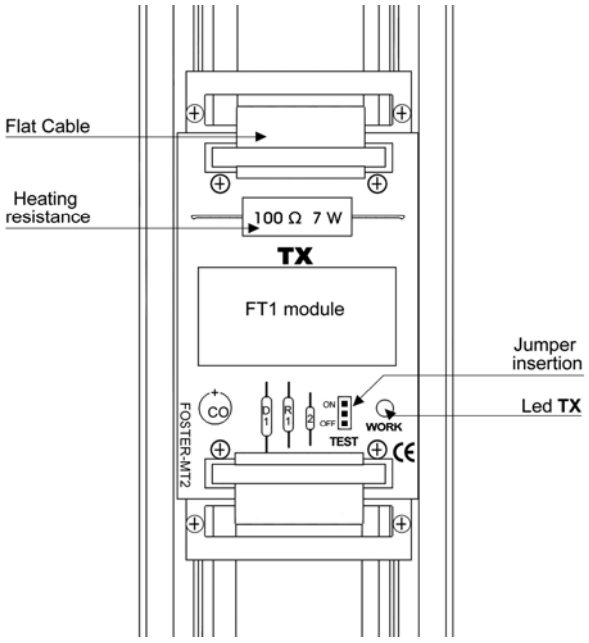
1. Connect the tester to one of the main **RX expansion boards** using the small (red-black) cable supplied.





Alignment setting

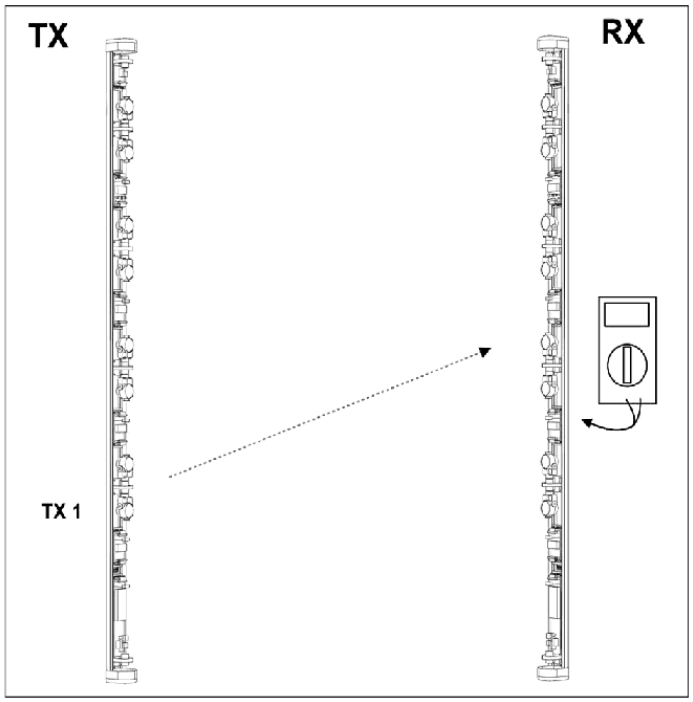
2. Move the test jumper on the **TX base board** to position **ON**



3. Move the jumper test on the first **TX expansion board** to position **ON**

4. Manually adjust the optics of the first **TX expansion board** to display the maximum value on the tester.

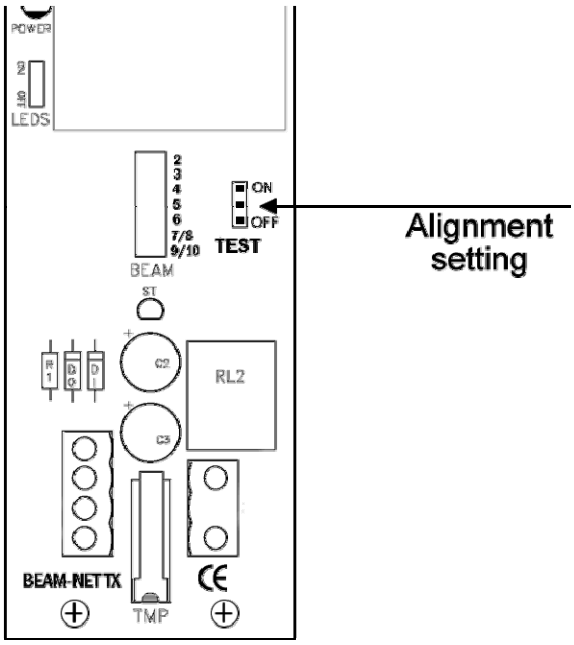
   It is very important to orient the lens towards the center of the receiving barrier (**RX**) installed frontally.



5. Remove the jumper test from the first **TX expansion board** in the lower section and insert it into the next one.
6. Align all the remaining **TX** expansion boards.

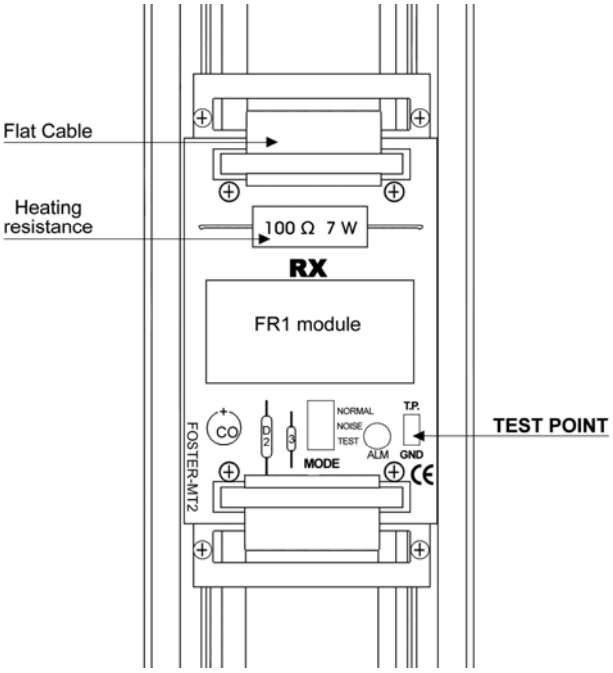
Aligning the receiver assembly (receiver)

1. Move the jumper test on the **base TX board** to position **ON**.

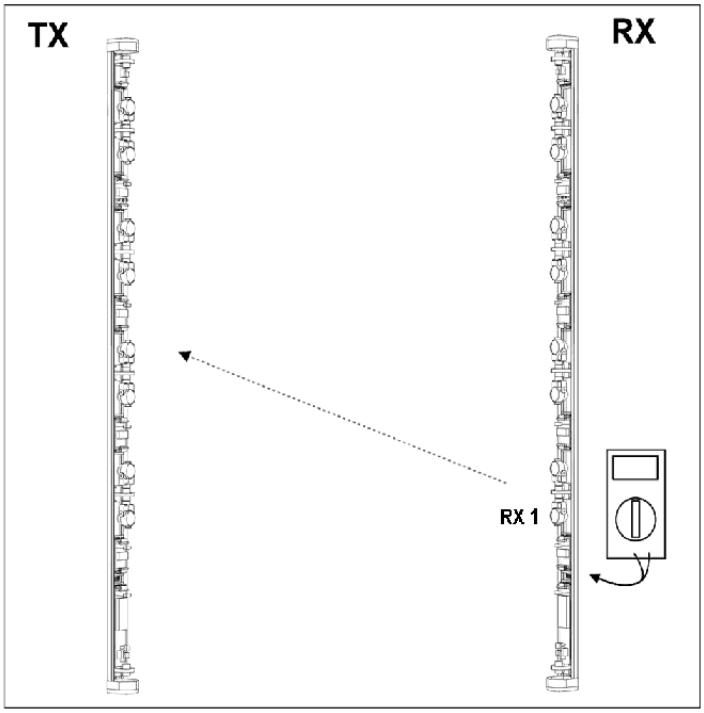


2. Insert the jumper test in one of the main **TX expansion boards**.

3. Connect the tester to the test point of the first **RX expansion board** in the lower section



4. Move jumper MODE on the **RX expansion board** to position **TEST**.



It is very important to orient the lens towards the center of the transmitter barrier (**TX**) installed frontally.

6. Repeat the alignment operation for all the remaining **RX expansion boards**.
7. After completing all the alignment operations, move the jumper of the **base TX** board to position **OFF**.
8. Move all the jumpers of the **TX expansion boards** to position **OFF**.
9. Move all the jumpers of the **RX expansion boards** to position **NORMAL**.
10. Models with two lenses: verify that the barrier generates an alarm signal when each assembly with two lenses is covered.
    Models with one lens: verify that the barrier generates an alarm signal when each assembly with one lens is covered.

Settings and programming

Description of indicators (LEDs)

FOSTER RX boards have 6 indicators (LEDs) used for control purposes, which can be enabled by moving the jumper on the two-pin connector marked as LEDs to position ON.
It is generally advisable to move the jumper back to position OFF at the end of the testing phase.

LED S.LOW: low signal (DISQUALIFICATION)
LED S.LOW switches on to indicate the presence of "**intense mist**". If intense mist is detected, the barrier does not initially generate an alarm message signaling a missing signal, but switches the S.LOW LED on, issuing signal DIQUALIFICATION on the terminal board (open collector).

LED MASK: Blinding signal
LED MASK switches on and blinks to signal that the infrared signal detected has a modulated intensity above the one of the signal used.
N.B.: this LED is generally OFF in ordinary operating conditions. If the LED continues to be lighted or blink, increase the blinding immunity by adjusting trimmer MASK (turn it clockwise to increase sensitivity).

LED DETECT: Beam interruption detection
Regardless of the alarm output resulting from the tripping delay, which can be adjusted with trimmer SPEED, LED DETECT always switches on when the beams of the barriers are obstructed for a long or short period of time.
N.B.: this LED is generally OFF in ordinary operating conditions. The LED blinks if one or more transmitter signals are not detected.
The LED lights permanently if no signals are detected from all the transmitters or if one or more receivers are blinded or incorrectly aligned.

LED ALM: Alarm acknowledgement.
This LED is normally OFF and switches on to signal the presence of an alarm. The alarms of FOSTER barriers depend on the tripping delay set on trimmer SPEED, which can range from a minimum of 50 mSec to 500 mSec (turn the trimmer clockwise to increase the delay).

LED HTR: Heating system enabling acknowledgement
FOSTER barriers have an automatic heating system with electronic control that guarantees a minimum internal temperature of 17°C in all environmental conditions.
If the LED is on, the heating system is working correctly.

POWER: power supply
LED POWER is the only one that is permanently on in ordinary operating conditions. It is used to indicate that the board is correctly powered.

Description of characteristics and jumper settings

FOSTER RX boards can be programmed in different configurations by means of the jumpers.

RX BOARD BEAM (preset by manufacturer)
Use all the jumpers that correspond to the number of receivers fitted on the barrier (if the barrier has 4 double or single lenses, move jumpers to positions 3 and 4).

TX BOARD BEAM (preset by manufacturer)
Enable only the jumper that refers to the TX optics fitted on the barrier (for example if the barrier has 4 beams, move the jumper to position 4).

AND
The selection of the ON mode enables to attain the random AND of two beams, which means that an alarm is generated only if at least two beams generate an alarm.
This applies to all the beams used both on transmitters and receivers.
This function can also be programmed remotely through the terminal board.

SPEED TRIMMER
Trimmer for the adjustment of the tripping time (50 msec / 500 msec).

MASK TRIMMER
Trimmer to adjust the sensitivity of the anti-blinding device (generally preset by manufacturer).

LEDS
If moved to position ON, this jumper enables the LEDs.

NOISE (RX)
This jumper has to be programmed if interference from transformers, inverters, etc. is detected.

S.LOW
This jumper has to be programmed if intense mist is detected.

Technical specifications

FOSTER MODEL WITH TWO/ONE LENS	
Max. operating range outdoors (model with two lens)	100 m
Max. operating range outdoors (model with one lens)	80 m
Minimum distance	4 m (model with height 1 m.)
Column height	1.0 m – 1.5 m – 2.0 m
Synchronization	Optics
Max. total beams	50 crossed
Power supply	12Vdc
Disqualification	Automatic with external signals
Max. absorption of columns	Tx 100 mA + Rx 150 mA
Maximum absorption of column heaters	30W +30W 24Vac with heat regulator
Operating temperature	–25°C +70°C
Vertical alignment angle	30°
Horizontal alignment angle	180°
Detection system	AND / OR on Tx and Rx remote AND
Anti-blinding system	Automatic, can be disabled
Tripping time	Adjustable, 50 / 500 ms
Alarm output	Contact of exchange relay NC/NA
Tamper output	NC contact
LED indicators	Power supply, blinding, heating, low signal, alarm, detection
IR signal	Pulsed, coded
Class of protection	IP 54
Wall-mounting, accessories for pole-mounting, cable for the alignment of instrumentation, instruction manual with application examples	
Full warranty	2 YEARS

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